UNCRATING/INSTALLATION INSTRUCTIONS

RELIANCE® 200/250
GLASSWARE WASHER

(01/30/02)
Rev. 1

P-920010-163

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A WORD FROM STERIS CORPORATION

Follow each step of the uncrating/installation instructions **in the order presented**. Open the carton carefully to avoid damage to the equipment inside. If you find any indication of damage to the equipment (no matter how slight), show it to your supervisor.

To properly install this unit, you will need the Equipment Drawings (previously furnished), showing all utility service and space requirements. If drawings cannot be located, replacement copies may be obtained by writing, faxing, or telephoning STERIS giving the serial and model numbers of your equipment.

Once installed, equipment operation should be tested by a qualified service technician prior to your usage of the equipment.

If STERIS supervision is desired, for installing and starting up this equipment, contact your local STERIS representative.

Indications for Use

The Reliance® 200 and 250 Glassware Washers are indicated for point of use automated cleaning and drying of typical laboratory glassware, as well as miscellaneous plastic items in university, biotechnology or pharmaceutical research, analytical and quality control laboratories. The Reliance 200 Glassware Washer is a counter height washer and the Reliance 250 Glassware Washer, a cabinet unit available as a freestanding or recessed unit.

Advisory

IMPORTANT: A listing of Safety Warnings and Cautions to be observed when uncrating, installing, and operating this washer can be found in Section 1 of these instructions. Do not begin uncrating/installing this equipment until you have become familiar with this information.

IMPORTANT: Be sure to check local occupational health and safety regulations, as well as electric and plumbing codes, for any special requirements that may pertain to the installation of this unit.

Any alteration of the equipment not authorized by STERIS Engineering Service which could affect its operation will void the warranty, could adversely affect washing efficacy, could violate federal, state, and local regulations, and could jeopardize your insurance coverage.

STERIS supervision is recommended for installing and starting up this equipment. Contact the STERIS Regional Office nearest you for availability information on this service.

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Service Information

A thorough preventive maintenance program is essential to safe and proper equipment operation. You are encouraged to contact your STERIS representative concerning extended service maintenance agreements to give your equipment planned maintenance, assuring equipment performance according to factory specifications.

A global network of skilled service specialists can provide periodic inspections and adjustments to assure low-cost peak performance. STERIS representatives can provide information regarding Annual Maintenance Agreements.

STERIS carries a complete line of accessories for use in this equipment. A STERIS representative will gladly review these with you.

Sales and Service
STERIS Corporation
5960 Heisley Road
Mentor, Ohio 44060
Tel.: 440 354 2600
Fax: 440 639 8199

Technical Assistance
STERIS Engineering Services
2424 West 23rd Street
Erie, PA 16506
Tel.: 814 452 3100
Fax: 814 870 8400

Manufacturing Plant
STERIS Canada Corporation
415, rue des Alleghanys
Beauport (Québec)
Canada G1C 4N4
Tel.: 418 664 1549
Fax: 418 664 0188

Authorized EU Representative
STERIS Limited
STERIS House
Jays Close
Viables
Basingstoke,
Hampshire RG22 4AX,
United Kingdom
Tel.: 44 1256 840400
Fax: 44 1256 866502

STERIS Offices Worldwide

Benelux	32 2 523 2488
Canada	800 661 3937
France	33 1 4488 2688
Germany	49 2233 6999 0
Hong Kong	852 2 563 3623
Italy	39 02 66 80 53 10
Japan	81 78 321 2271
Korea	82 2 517 1517
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Nordic	358 9 25851
Singapore	65 841 7677
Spain	34 91 658 5920
Sweden	46 152 228 30
United Kingdom	44 1256 840400

Web Site: www.steris.com

Certification

The **Reliance 200 and 250 Glassware Washers** meet the applicable requirements of the following standards:

Underwriters Laboratories (UL) Standard 3101, as certified by ITS Testing Laboratories, Inc., and Canadian Standards Association (CSA), CAN/CSA 22.2 No 1010.1.

CE

Governing Directive for the affixing of the CE mark:

Machinery Directive 98/37/EEC.

Standards applied to demonstrate conformity to the directives:

EN-61010-1 (1993), IEC-61326-1.

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TABLE OF CONTENTS

SECTION	TITLE	PAGE
1	**LISTING OF WARNINGS, CAUTIONS AND SYMBOLS**	**1-1**
	Warnings and Cautions	1-1
	Symbols	1-3
2	**UNCRATING INSTRUCTIONS**	**2-1**
	Crate	2-1
	Tools	2-3
	Open Crate and Remove Skid	2-5
	Reliance 200 Glassware Washer	2-5
	Reliance 250 Glassware Washer	2-9
	Door Manual Safety Latches	2-11
	Service Access Panels	2-13
3	**INSTALLATION INSTRUCTIONS**	**3-1**
	Technical Specifications	3-1
	Installation Requirements	3-1
	CE Requirements	3-3
	Connect Utilities	3-5
	Installation Kit (optional)	3-5
	Utility Connections	3-5
	Electrical Connections	3-7
	Units Operating on 60 Hz	3-7
	Units Operating on 50 Hz	3-7
	Optional Printer	3-11
	Final Installation	3-15
	Level the Unit	3-15
	Optional Freestanding Panels (200 Model)	3-17
	Optional Countertop (200 Model)	3-17
	Installation Kit	3-18
4	**INSTALLATION CHECKLIST**	**4-1**
5	**OPERATIONAL TEST**	**5-1**
	Test Procedure	5-1
	Priming Procedure	5-4
	Start-up Test	5-5

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LISTING OF WARNINGS, CAUTIONS AND SYMBOLS

1

The following is a listing of the safety precautions which must be observed when uncrating and installing this equipment. **WARNINGS** indicate the potential for danger to personnel and **CAUTIONS** indicate the potential for damage to equipment. These precautions are repeated where applicable throughout the instructions.

WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:

When moving the unit, use a forklift or pallet truck.

Tipping Hazard. This equipment is top heavy. Handle with care.

Unit is heavy. At least two people are required to move unit.

Before tilting the unit, make sure quick release pins are properly secured in service legs at the back of the unit and on service handles in front of the unit.

WARNING - LACERATION/EYE INJURY HAZARD:

When removing bands, wear gloves and eye protection, and always use a tool specifically designed to cut the bands. The bands used to secure this carton can cause personal injury when cut and tension is released.

WARNING - LACERATION HAZARD:

When removing bolts, wear gloves to protect your hands.

WARNING - BURN HAZARD:

When checking the automatic stop feature, wear appropriate personal protective equipment (PPE) and open chamber door slowly. Hot water/steam may be sprayed through door opening if door is opened during a cycle.

WARNING - FALL HAZARD:

To prevent falls, keep floors dry. Promptly clean up any spills or drippage.

WARNING - ELECTRICAL SHOCK AND/OR BURN HAZARD:

Fasteners and star washers are used to ensure protective bonding continuity. Always reinstall any star washer which may have been removed during installation or servicing.

Disconnect all utilities to unit before servicing. Do not service unit unless all utilities have been properly locked out. Always follow local electrical codes and safety-related work practices.

Secure cable wires on junction box with strain relief to prevent damage to wiring on unit and on wall.

Disconnect all utilities to unit before tilting the unit. Do not tilt unil unless all utilites have been properly locked out. always follow electrical codes and safety-related work practices.

(See next page for additional Warnings and Cautions)

WARNING – CHEMICAL BURN/EYE INJURY HAZARD:

Wear gloves and eye protection when using a chemical product. Avoid contact with eyes or skin. If spilled or splashed, flush with water for 15 minutes. If swallowed, DO NOT induce vomiting. Administer an alkali with plenty of water. Seek medical attention immediately.

Detergents are caustic and can cause adverse effects to exposed tissues. Do not get in eyes, on skin, or attempt to ingest by mouth.

- **Read and follow the precautions and instructions on the detergent label and in the Material Safety Data Sheet (MSDS) prior to handling the detergent, containers or servicing the detergent injection pumps.**
- **Wear protective clothing, gloves, and face shield whenever handling detergents or servicing the detergent injection pumps and lines.**

CAUTION - POSSIBLE EQUIPMENT DAMAGE:

When removing adhesives from stainless steel, use a small amount of non-flammable cleaning solvent. Rub in a back-and-forth motion (in same direction as surface grain). Solvent rubbed in a circular motion or applied with a wire brush or steel wool on door and chamber assemblies can be harmful to stainless steel. Do not use solvents on painted surfaces.

When unit is installed on a combustible floor and/or close to a combustible wall, the floor and/or wall must be covered with a metal sheet extending to the outer edges of the machine.

Before operating equipment, always firmly push the manifolded accessory rack into the manifold connector at the back of the wash chamber. If rack is not positioned correctly, door will not close, damage may result, and unit will be unable to effectively wash load.

Always use a silicone lubricant to lubricate squeeze tubes. Petroleum-based lubricants, such as Vaseline or grease, will cause squeeze tubes to melt.

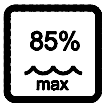
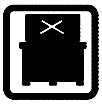
Do not cut flexible hose (utilities and draining). The whole 105" (2,667 mm) length of the flexible hose is required when pulling out the unit for service or maintenance purposes.

Do not cut main electric supply cord. The whole 105"(2,667 mm) length of the main supply cord is required when pulling out the unit for service or maintenance purposes.

Do not cut printer cable. The whole 105" (2,667 mm) length of the printer cable is required when pulling out the unit for service or maintenance purposes.

On junction box, secure main supply cord with a strain relief to prevent damage to wiring.

Symbols

Symbol	Definition
	Tip 'n Tell Indicator
	Maximum Shipping and Storing Temperature
	Maximum Humidity Level
	This Way Up
	Do Not Stack
	Fragile
	Keep Dry
A	Amperage Rating of the Unit
V	Voltage Rating of the Unit
~	Alternating Current
kW	Power Rating of the Unit
Hz	Frequency of the Unit
ϕ	Phase of the Unit
	Wear Safety Gloves
	Protective Earth (Ground)
	Warning! Risk of Electrical Shock

(See next page for additional Symbols)

Symbol	Definition
	Electrostatic Sensitive Device
	Attention. Refer to Manual for Further Instructions
	Fuse Identification
	Skin Corrosion Hazard. Consult MSDS for Hazards Listing.
	Lubricate Squeeze Tubes with Lubricating Oil.

IMPORTANT: To prevent damage to piping and recirculation components during storage and transportation, an anti-freeze solution has been put in the recirculation system. It is preferable to wait until a draining phase has been completed before opening the unit door. Before starting the test cycle, refer to the MSDS sheet included in the "Customer Information Envelope" for more information on the anti-freeze solution.

UNCRATING INSTRUCTIONS

2

NOTE: Optional water treatment units (Purified Water Generator System and Water Softener System) are available for installation with the Reliance® 200 and 250 Glassware Washers. For more information on the uncrating, installation, and start-up of these units, please refer to Water Treatment Systems Equipment Manual (P-920010-187).

» Crate

This section contains information on how to uncrate and install the unit. Check the packing list to be sure that all the crates have arrived. If a crate is missing, contact your local STERIS representative.

Reliance® 200 Glassware Washer (Figure 2-1.)

- Weight: 550 lb (250 kg)
- Size (W x H x L) 41 x 45 x 42" (1,066 x 1,143 x 1,068 mm)

Optional Countertop

- Weight: 42 lb (19 kg)
- Size (W x H x D) 37 x 6 x 33" (940 x 150 x 840mm)

Optional Freestanding Panels

- Weight: 38 lb (17 kg)
- Size (W x H x L) 42 x 9 x 33" (1,070 x 230 x 840 mm)

Optional Installation Kit

Weight 44 lb (20 kg)

Size (W x H x L) 12 x 4 x 48" (304 x 102 x 1,219 mm)

Reliance® 250 Glassware Washer (Figure 2-2.)

- Weight: 650 lb (295 kg)
- Size (W x H x L) 42 x 69.5 x 42" (1,086 x 1,612 x 1,086 mm)

Optional Installation Kit

Weight: 24 lb (11 kg)

Size: 12 x 12 x 12" (304 x 304 x 304 mm)

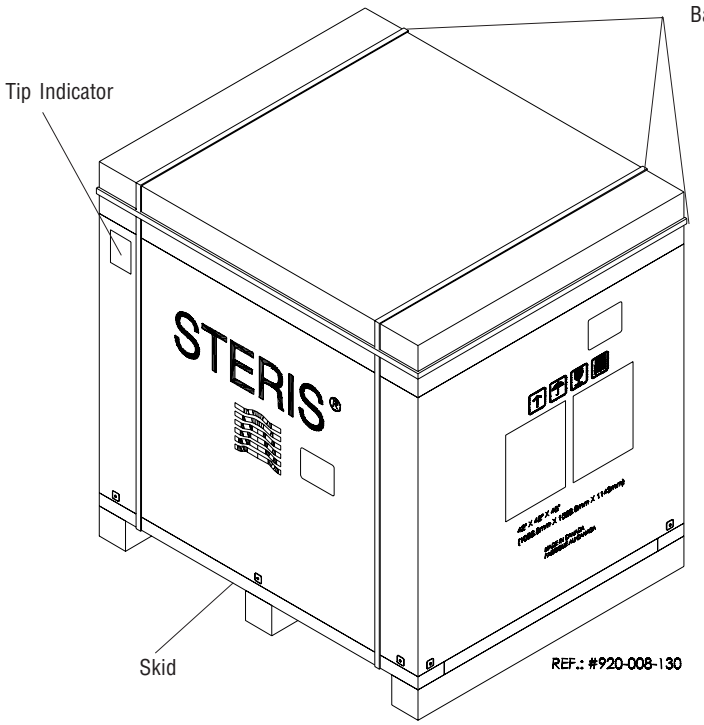


Figure 2-1. Reliance 200 Glassware Washer Crate

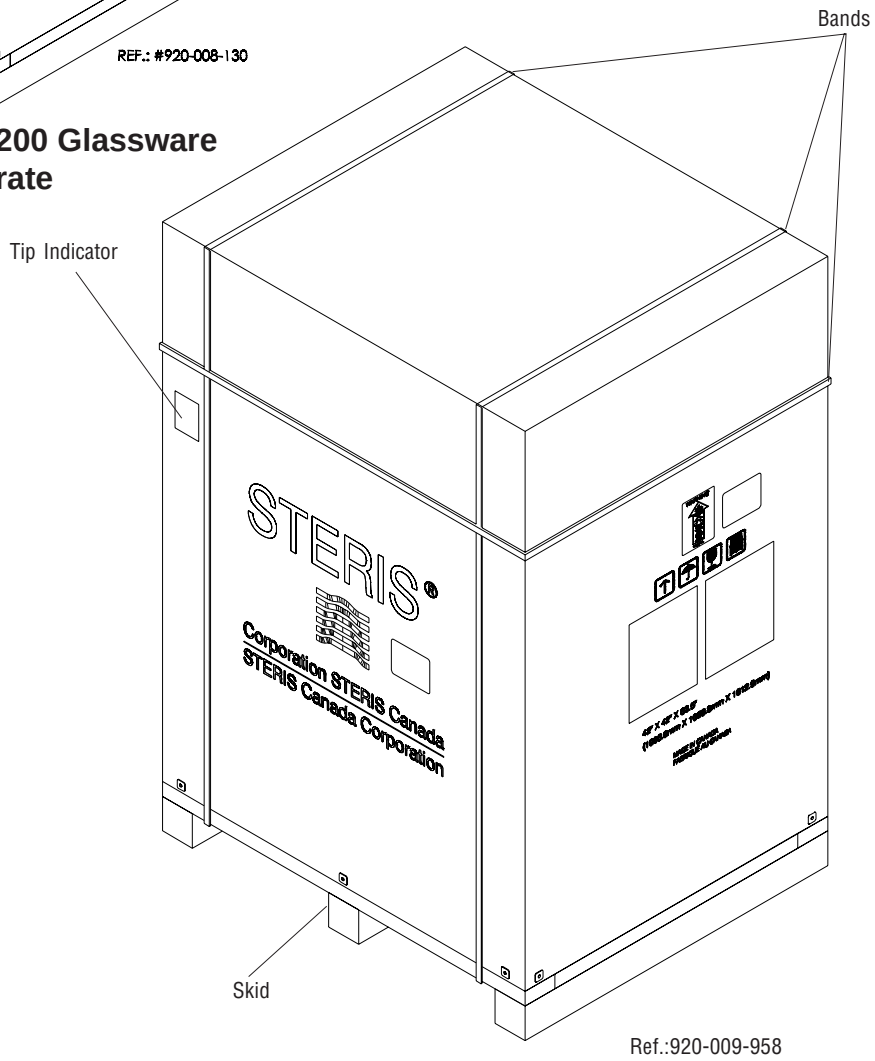


Figure 2-2. Reliance 250 Glassware Washer Crate

» Tools

Following is a list of suggested tools required for the installation of the Reliance 200/250 Glassware Washer:

- Crow bar
- Adjustable wrench
- Spirit level
- Screwdriver (slotted head and Phillips)
- Cutting pliers
- Ratchet, 1/2" socket
- Utility knife
- Hammer

NOTE: For 250 Units, go to page 2-9.

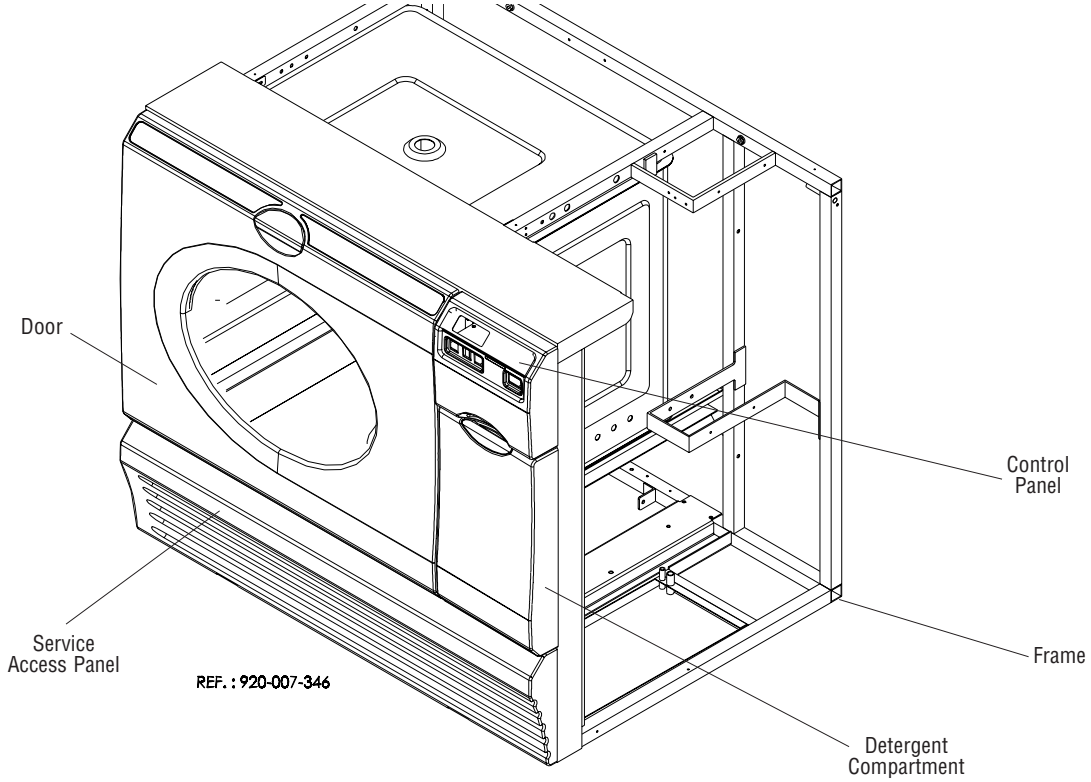


Figure 2-3. Reliance® 200 Glassware Washer

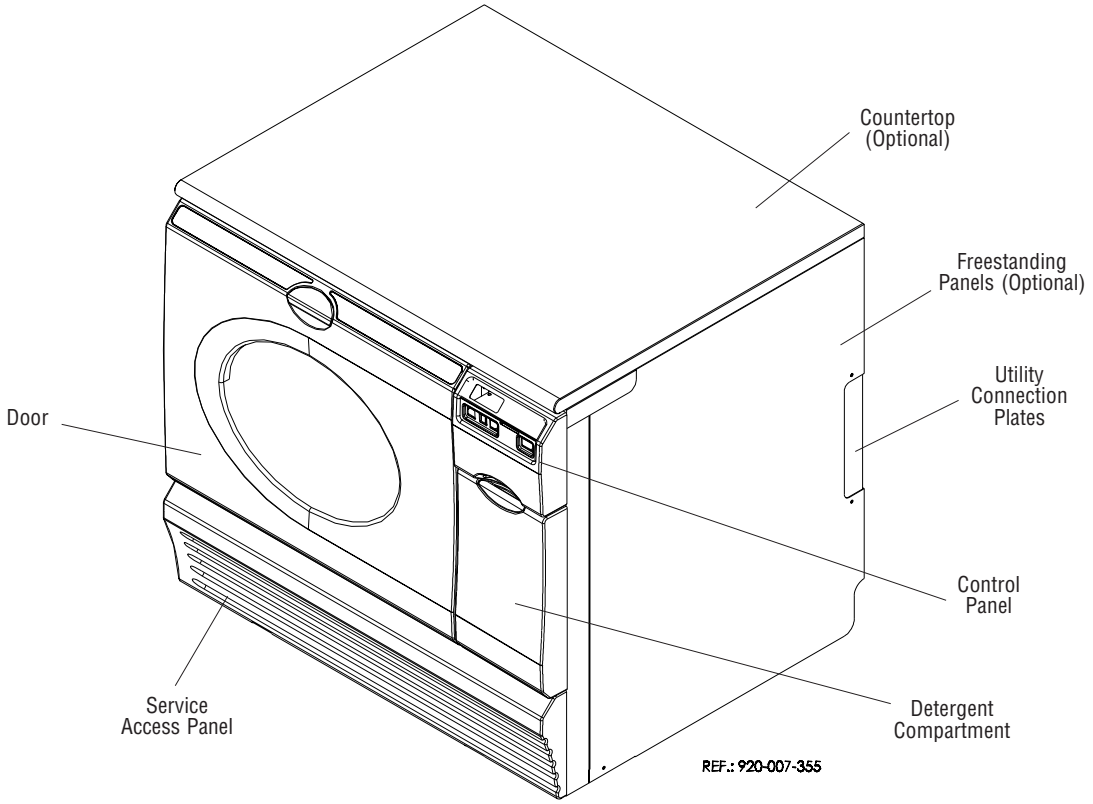


Figure 2-4. Reliance® 200 Glassware Washer (with Optional Freestanding Panels and Countertop)

Open Crate and Remove Skid

» Reliance 200 Glassware Washer

⚠ WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: When moving the unit, use a forklift or pallet truck.

⚠ WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Unit is heavy. At least two people are required to move the unit.

⚠ WARNING - LACERATION/EYE HAZARD: When removing bands, wear gloves and eye protection, and always use a tool specifically designed to cut the bands. The bands used to secure this carton can cause personal injury when cut and tension is released.

⚠ WARNING - LACERATION HAZARD: When removing bolts, wear gloves to protect your hands.

NOTE: Equipment is heavy. Use a forklift or pallet truck to move crates.

NOTE: Uncrate on level floor as close to installation site as possible.

1. Check tip indicator, located on upper left side of crate (see Figure 2-1.) Tip indicator contains a blue compound at the bottom of the indicator. If unit has been tipped, residue from the blue compound will be found higher up in the indicator.

   If unit has been tipped, contact your STERIS representative to determine if a service technician is required to inspect the equipment and determine if unit was damaged.
2. Position unit to open crate from the top. Provide a clear work area on all sides.
3. Carefully cut and remove bands from crate (see Figure 2-1). Discard bands before continuing.
4. Open cardboard box from the top.
5. Remove Customer Information envelope including:
   - Uncrating/Installation Manual
   - Operator Manual
6. Pull out cardboard corners.
7. Remove nails holding cardboard to skid. Remove and discard cardboard side panels.
8. Remove and discard polystyrene wrap and cardboard from around the unit.
9. Remove foam between door and wash chamber frame. Close the door.

NOTE: Once door is closed, it cannot be opened until power is on. See page 2-11 for special instructions to open door manually.

10. Check tip indicator, located on back of unit. If unit has been tipped, contact your STERIS representative to determine if a service technician is required to inspect the equipment and determine if unit was damaged.
11. With unit still mounted on skid, use a forklift or pallet truck to move equipment to installation site. Check for center of gravity for safe handling (see Figure 2-5).
12. Open detergent compartment (see Figure 2-9).
13. Remove Phillips screw holding service access panel in place (see Figure 2-9). Remove service access panel and set aside.
14. Remove 4 bolts securing unit base to skid (2 in front and 2 at the back).

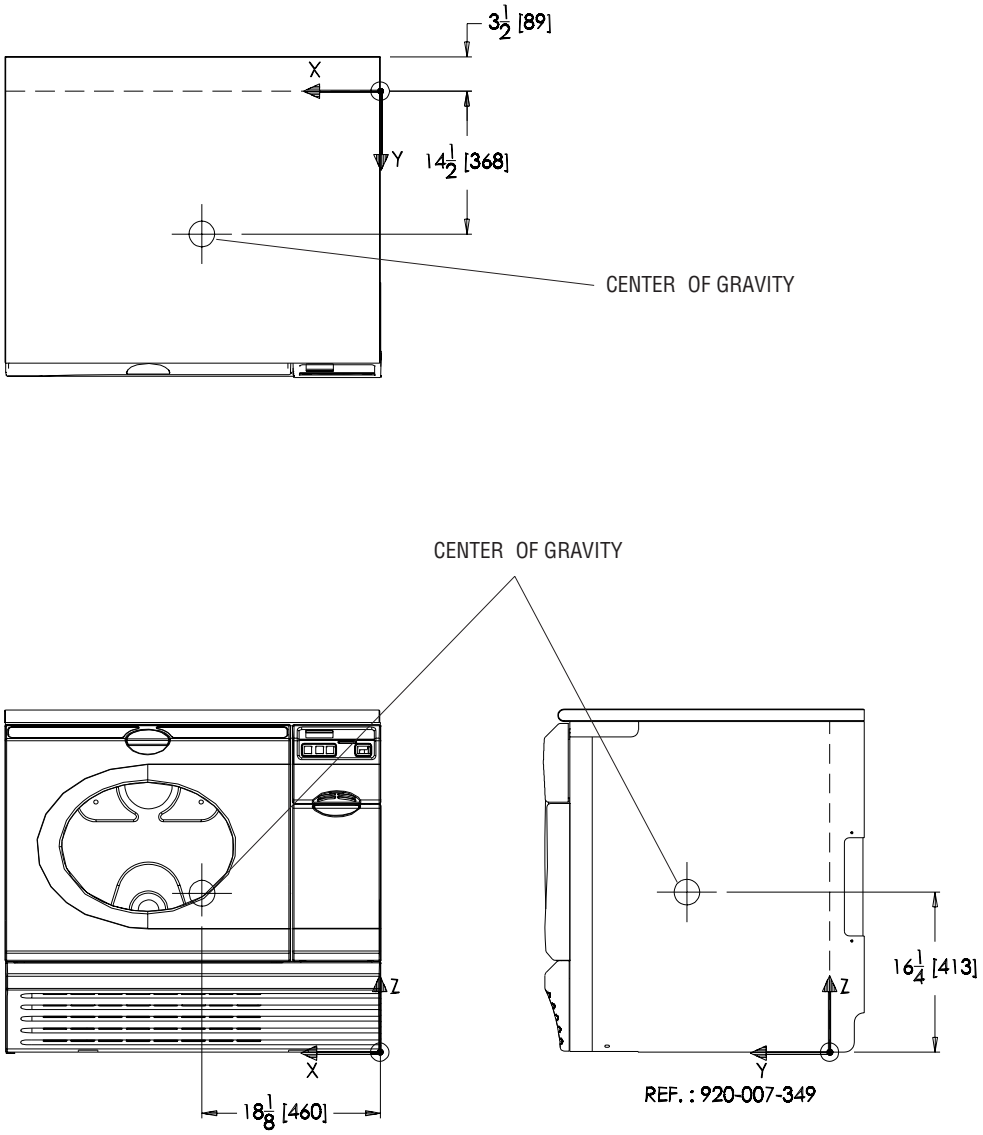


Figure 2-5. Center of Gravity Reliance 200 Glassware Washer

IMPORTANT: Unit must come off the skid from the back. Use a cardboard or other protective material to slide unit off the skid.

15. Slide unit off skid.
16. Roll unit close to final installation site. Keep enough work space at the back of unit to connect utilities.
17. Discard all packing material removed during uncrating procedures.

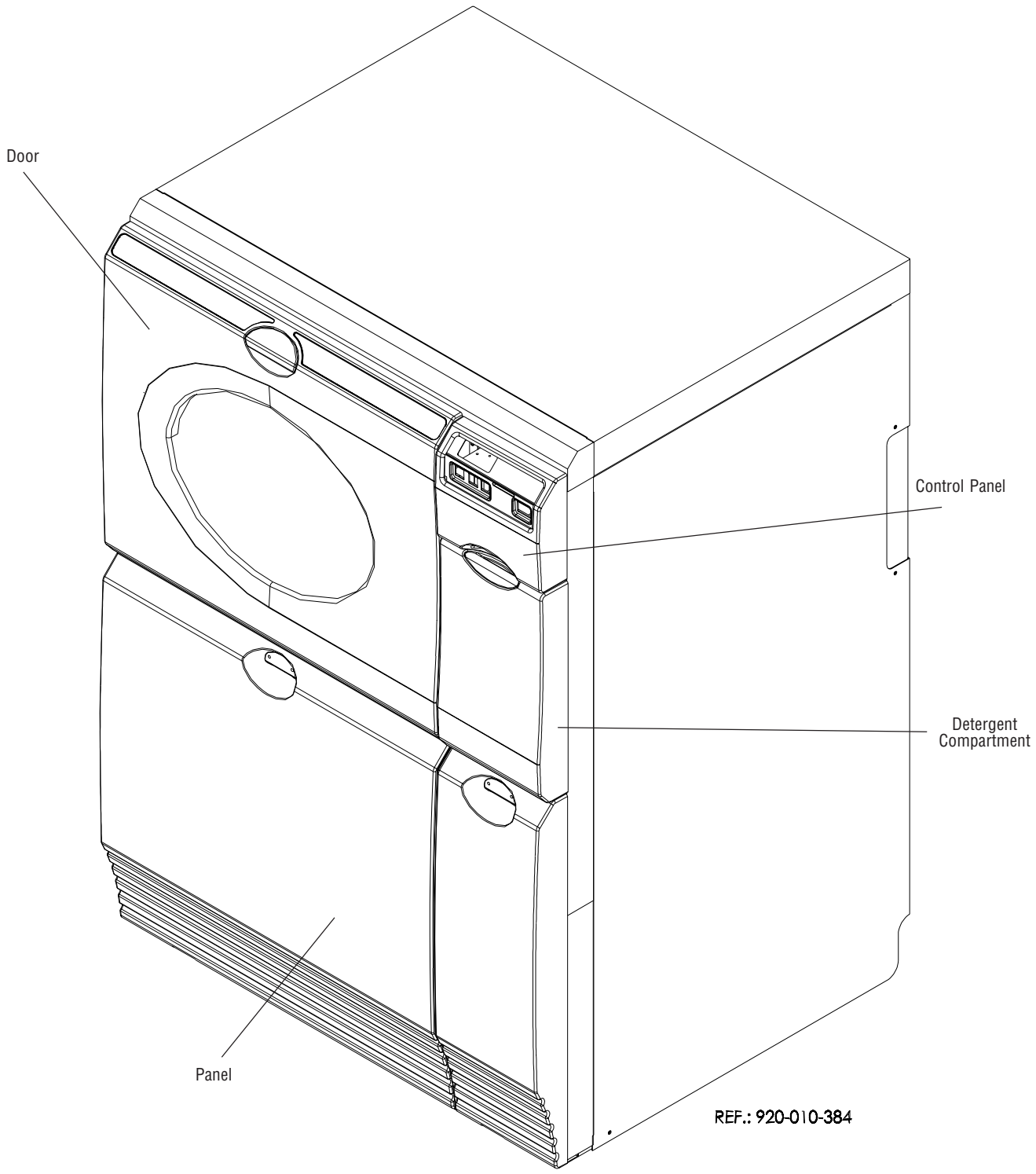


Figure 2-6. Reliance® 250 Glassware Washer

» Reliance 250 Glassware Washer

⚠ WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: When moving the unit, use a forklift or pallet truck.

⚠ WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Tipping Hazard. This equipment is top heavy. Handle with care.

⚠ WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Unit is heavy. At least two people are required to move the unit.

⚠ WARNING - LACERATION/EYE HAZARD: When removing bands, wear gloves and eye protection, and always use a tool specifically designed to cut the bands. The bands used to secure this carton can cause personal injury when cut and tension is released.

⚠ WARNING - LACERATION HAZARD: When removing bolts, wear gloves to protect your hands.

NOTE: Equipment is heavy. Use a forklift or pallet truck to move crates.

NOTE: Uncrate on level floor as close to installation site as possible.

1. Check tip indicator, located on upper left side of crate (see Figure 2-2.) Tip indicator contains a blue compound at the bottom of the indicator. If unit has been tipped, residue from the blue compound will be found higher up in the indicator.

   If unit has been tipped, contact your STERIS representative to determine if a service technician is required to inspect the equipment and determine if unit was damaged.

2. Position unit to open crate from the top. Provide a clear work area on all sides.
3. Carefully cut and remove bands from crate (see Figure 2-2). Discard bands before continuing.
4. Open cardboard box from the top.
5. Remove Customer Information envelope including:
   - Uncrating/Installation Manual
   - Operator Manual
6. Pull out cardboard corners.
7. Remove nails holding cardboard to skid. Remove and discard cardboard side panels.
8. Remove and discard polystyrene wrap and cardboard from around the unit.
9. Remove foam between door and washer chamber frame. Close the door.

NOTE: Once door is closed, it cannot be opened until power is on. See page 2-11 for special instructions to open door manually.

10. Check tip indicator, located on back of unit. If unit has been tipped, contact your STERIS representative to determine if a service technician is required to inspect the equipment and determine if unit was damaged.
11. With unit still mounted on skid, use a forklift or pallet truck to move equipment to installation site. Check for center of gravity for safe handling (see Figure 2-7).
12. Open detergent compartment (see Figure 2-10).
13. Remove Phillips screw holding service access panel in place (see Figure 2-10). Remove service access panel and set aside.
14. Remove four bolts securing unit base to skid (two at the front and two at the back) .

IMPORTANT: Unit must come off the skid from the back. Use a cardboard or other protective material to slide unit off the skid.

15. Slide unit off skid.
16. Roll unit close to final installation site. Keep enough work space at the back of unit to connect utilities.
17. Discard all packing material and roll unit to installation site.

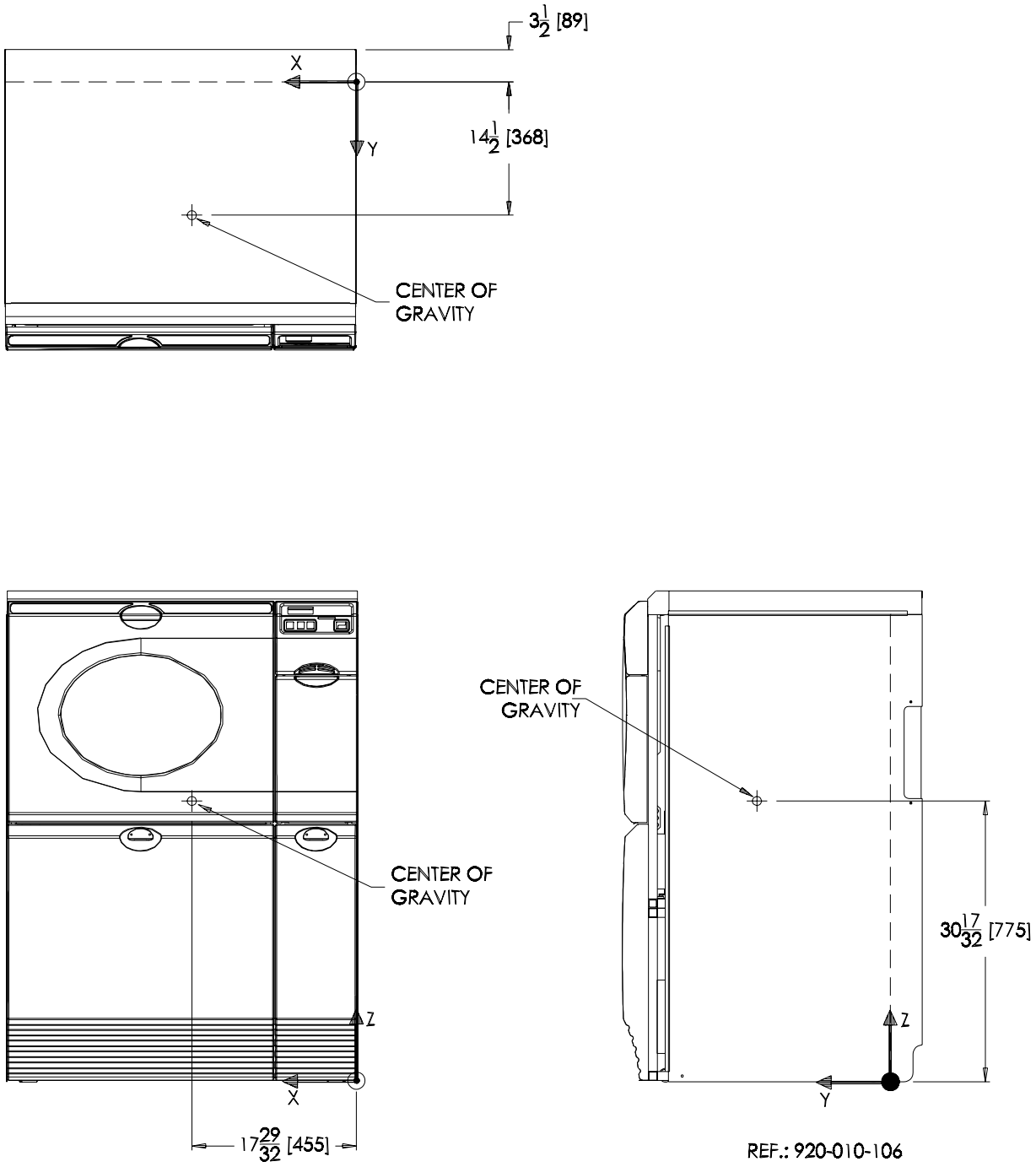


Figure 2-7. Center of Gravity Reliance 250 Glassware Washer

Door Manual Safety Latches

CAUTION: When removing adhesives from stainless steel, use a small amount of non-flammable cleaning solvent. Rub in a back-and-forth motion (in same direction as surface grain). Solvent rubbed in a circular motion or applied with a wire brush or steel wool on door and chamber assemblies can be harmful to stainless steel. Do not use solvents on painted surfaces.

NOTE: Door cannot be opened until power is on. To open door manually, proceed as follows:

1. Open detergent compartment door.
2. Remove protective foam and tape.
3. Remove tape holding detergent connectors.
4. Locate and loosen two Phillips-head screws under control panel cover.
5. Remove control panel cover. Set cover aside until installation and start-up procedure is completed.
6. Locate door manual safety latches (see Figure 2-8). To open door, first pull on the left safety latch then the right one.
7. Inside wash chamber, remove all tape securing rotary spray arms to the top of the wash chamber. Check that spray header rotates freely.
8. Remove foam between heating coils and bottom of wash chamber.
9. Remove tape securing bottom filter to bottom of wash chamber.

NOTE: Be sure to keep filter in place.

10. Discard all packing material and roll unit to installation site.

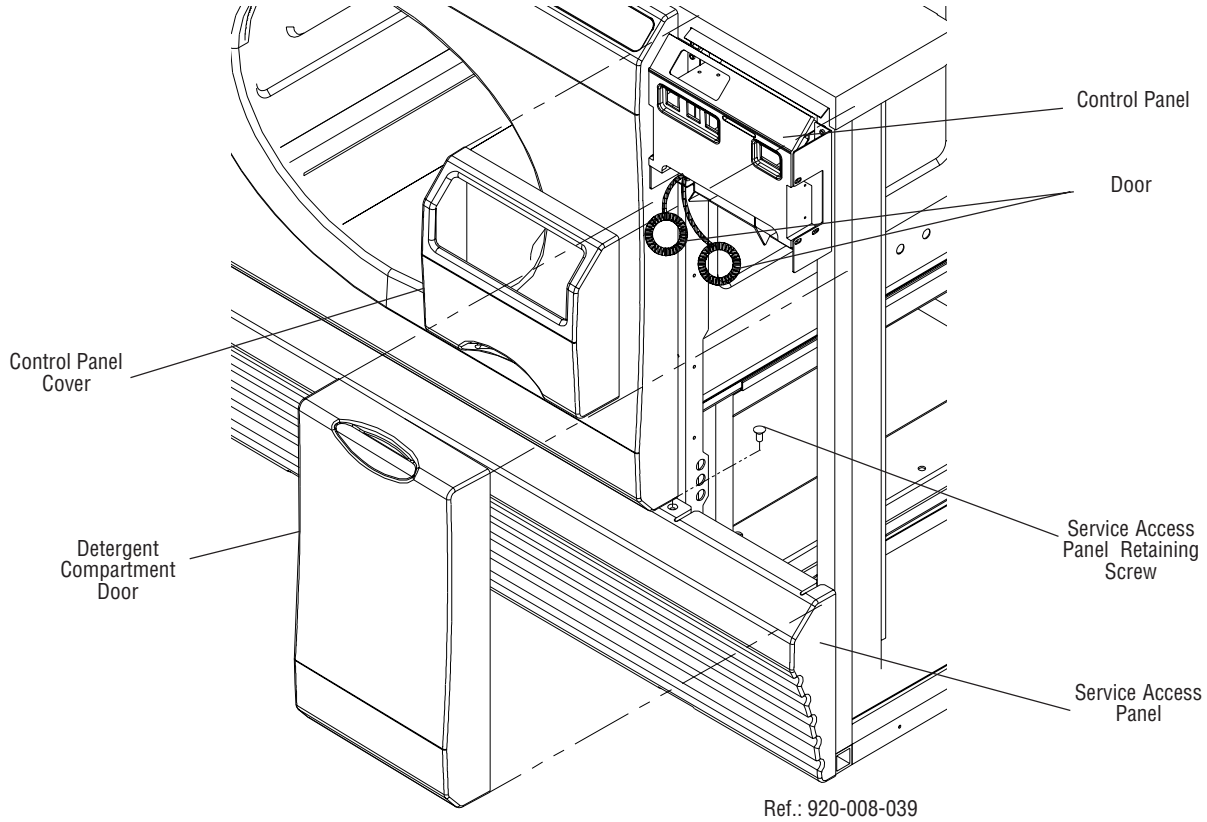


Figure 2-8. Service Access Panel Retaining Screw and Door Safety Latches

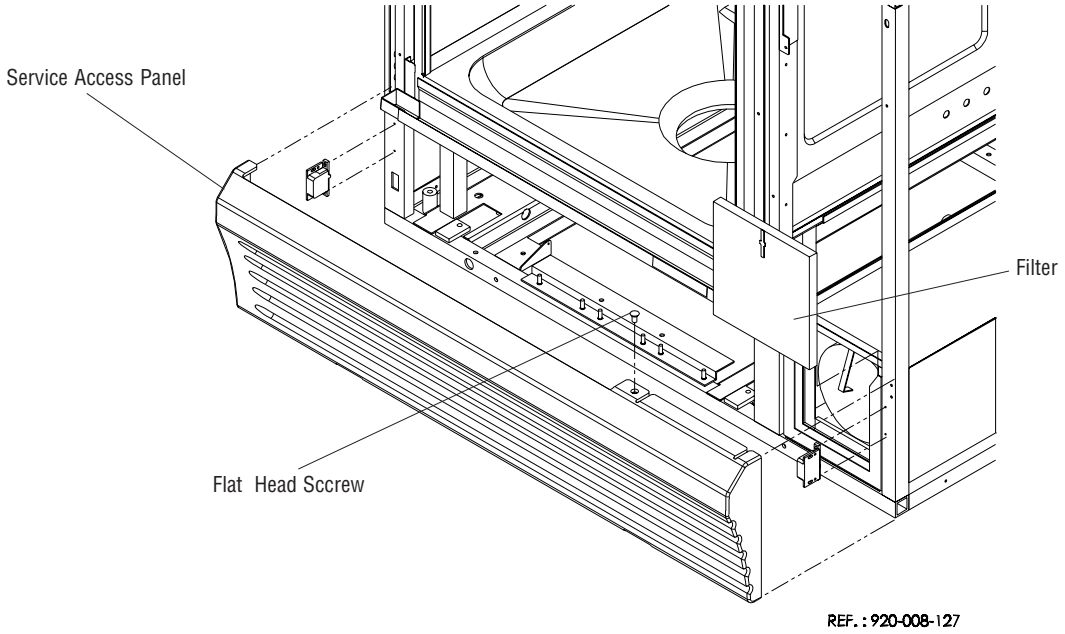


Figure 2-9. Service Access Panel (Reliance 200 Glassware Washer)

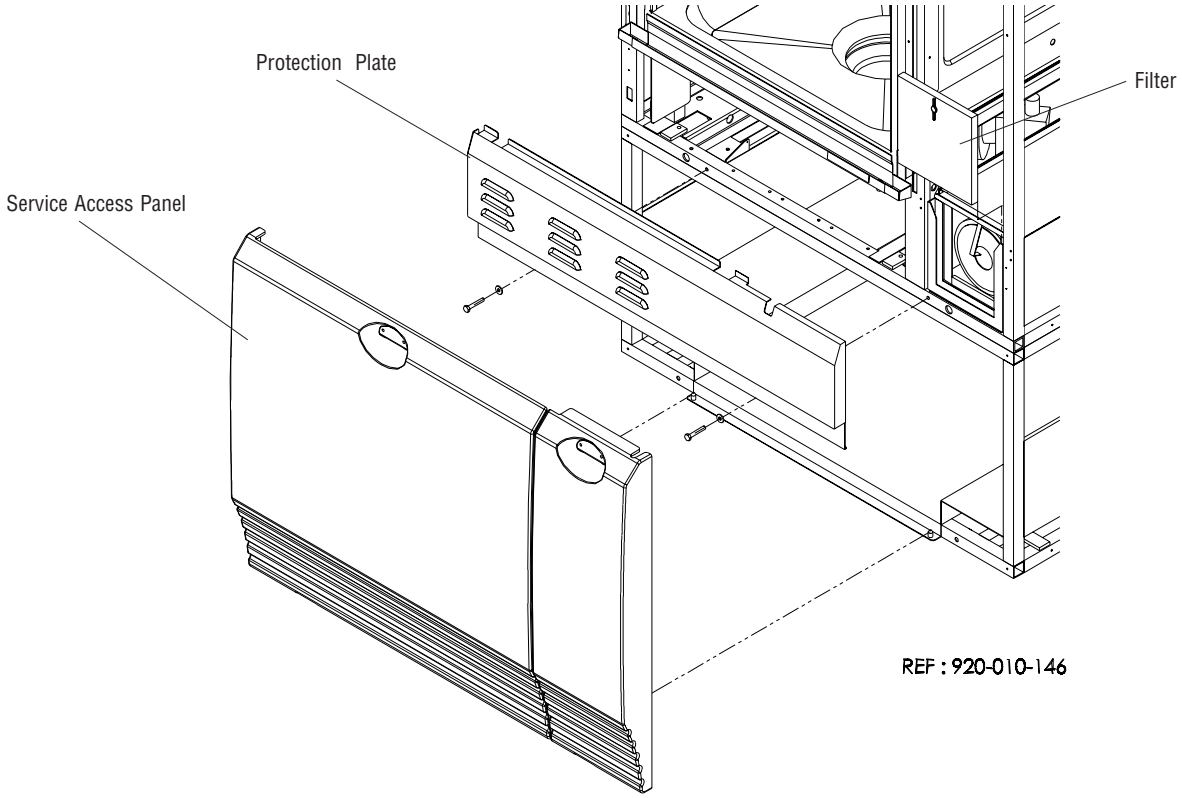


Figure 2-10. Service Access Panel (Reliance 250 Glassware Washer)

Service Access Panels

To access the chemical injection pumps, first remove the service access panels.

Reliance 200 Glassware Washer (see Figure 2-9.)

1. Open detergent compartment door.
2. Remove flat head screw holding service access panel to frame.
3. Remove service access panel.

Reliance 250 Glassware Washer (see Figure 2-10.)

1. Pull out service access panel.
2. Remove two bolts securing protection plate to frame.
3. Pull out protection plate.

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Technical Specifications

Permissible Environmental Conditions

This equipment is designed to give optimal results in an environment where maximum relative humidity is 80 percent for temperatures up to 88°F (31°C), decreasing linearly to 50 percent relative humidity at 104°F (40°C).

Noise Level

Equivalent Sound Pressure Level at work station (measured 36" [1,000 mm] away from equipment and at 63" (1,600 mm) from ground: 65.6. dB(A). (Results determined according to *ISO-3746: 1979 Standard: Acoustic Determination of Sound Power Levels of Noise Sources Survey Method).*

Amperage and Power Consumption

Maximum current and power consumption:

- 208 V~, 23.1 A, 6.7 kW, 3 ϕ, 60 Hz
- 230 V~, 27.9 A, 6.42 kW, 1 ϕ, 50/60 Hz
- 400 V~, 12.1 A, 6.5 kW, 3 ϕ, 50 Hz
- 460 V~, 10.1 A, 6.7 kW, 3 ϕ, 60 Hz

Seismic Anchorage System (optional)

A Seismic Anchorage System is available for high-risk seismic zones.

Installation Requirements

An Equipment Drawing, showing all utility and space requirements, was sent to you after the order for this equipment was received. The clearance space, specified on the Equipment Drawing is necessary for proper installation, operation, and maintenance of the unit. If this document is missing or misplaced, contact your STERIS representative, giving the serial, equipment, and model number of the unit. A replacement copy will be sent promptly.

NOTE: No ventilation is required if equipment is installed according to equipment drawings and follows installation instructions in this manual.

NOTE: For CE requirements, see next page.

1. Clearance - Clearance space shown on Equipment Drawing is necessary for easy installation and proper operation and maintenance of equipment.
2. Utility service lines:
   - Utility service requirements are shown on the Equipment Drawing.
   - To allow service on unit without shutting off building supply lines, shutoff valves (not by STERIS) should be installed on water lines to unit. Shutoff valves must be capable of being locked in **OFF** position only.

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- If unit is installed next to other equipment, shutoff valves should be located so that service can be shut off to one piece of equipment at a time.

3. Electricity
   - Check Equipment Drawing or nameplate (positioned behind unit, on right side under electrical box) for proper voltage and amperage.
   - Electrical supply is 208 V~, 60 Hz, three phase, 230 V~, 50/60 Hz, single phase, 400V~, 50 Hz, three phase, 460 V~, 60 Hz, three phase.
   - The disconnect device of the equipment must be within easy reach of the operator (preferably no more than 36" (1,000 mm) away from equipment).
   - Disconnect switches must be marked as the disconnecting device for the equipment and must be capable of being locked in **OFF** position only.
   - If unit is installed next to other equipment, disconnect switches should be positioned so that service can be shutoff to one piece of equipment at a time.
4. A protective conductor terminal (ground) is required (Class I Equipment). Installation Category is Overvoltage II.
5. Floor under unit is a noncombustible surface.
6. Wall behind unit is a noncombustible surface.

IMPORTANT: A protective conductor connection is essential for the safe operation of the equipment. Check for presence of protective conductor at equipment terminal and verify if connection is well secured inside terminal with proper torque requirement.

- Torque requirement for supply conductor terminals:
  - (L1-L2/ N) single phase or (L1-L2-L3) three phase:
    7.1 to 8.9 lb.in (0.8 to 1 N•m)
- Torque requirement for protective conductor terminal (ground):
  - 20 lb.in (2,2 N•m).

5. A disconnect switch (not by STERIS) should be installed in electrical supply line near unit:

   40 A (for 230 V, 1 ϕ units), 30 A (for 208 V, 3 ϕ, units), 15 A (for 460 V, 3 ϕ, units).

6. Use a minimum 176°F (80°C) main power supply cord.

⚠ CAUTION - POSSIBLE EQUIPMENT DAMAGE: When unit is installed on a combustible floor and/or close to a combustible wall, the floor and/or wall must be covered with a metal sheet extending to the outer edges of the machine.

» CE Requirements

1. A European-approved type inlet bushing (strain relief) must be fitted to opening on electrical supply box in order to protect main supply cord.
2. A 40 A (for 230 V, 1 ϕ units) or 20 A (for 400 V, 3 ϕ units) disconnect switch meeting the requirements of EN-60947 (not by STERIS) should be installed in electrical supply line near unit.

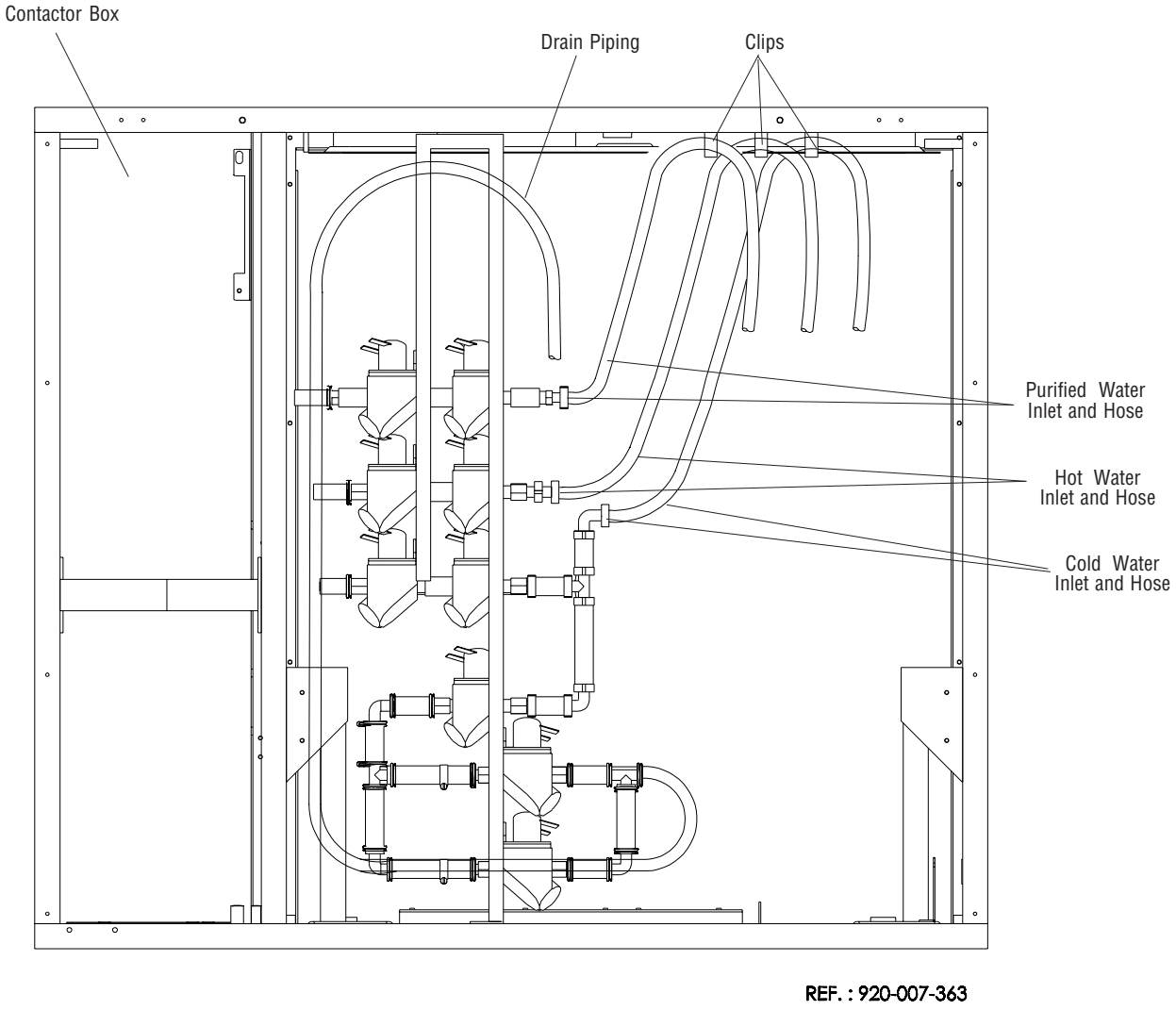

Figure 3-1. Water Supply Connections

Connect Utilities

NOTE: Always follow local occupational health and safety regulations, as well as electric and plumbing codes for any special requirements that may pertain to the installation of this unit.

NOTE: Customer supply piping must be installed as indicated on Equipment Drawing.

» Installation Kit (Optional)

An installation kit is available and includes the following items:

- Main electrical supply cord and connector (including one strain relief)
- Reinforced flexible hoses.
- Water pressure regulators
- Service handles
- Renu-Klenz® and Klenzyme™ bag-in-a-box and Material Safety Data Sheets
- Instructions "How to tilt unit for service access and how to install pressure regulators".

» Utility Connection

1. Untighten 3 screws from back protection panel. Slide panel to the left and remove.
2. On upper frame section pre-drilled holes, install three clips using three provided truss head screws.

⚠ CAUTION - POSSIBLE EQUIPMENT DAMAGE: Do not cut flexible hose (utilities and draining). The whole (105" [2,667 mm]) length of the flexible hose is required when pulling out the unit for service or maintenance purposes.

3. Connect purified water flexible hose to unit purified water inlet (see Figure 3-1).
4. Connect cold water flexible hose to unit cold water inlet (see Figure 3-1).
5. Connect hot water flexible hose to unit hot water inlet (see Figure 3-1).
6. Insert flexible hoses in the clips as indicated on Figure 3-1.
7. Connect purified water flexible hoses to building purified water supply (see Figure 3-1).
8. Connect cold water flexible hose to building cold water supply (see Figure 3-1).
9. Connect hot water flexible hose to building hot water supply (see Figure 3-1).
10. Insert flexible drain hose (about 12" [300 mm]) into building drain piping (see Figure 3-1).

NOTE: To prevent problems with flexible hoses and to ease maintenance procedures, be sure not to crush or squeeze flexible hoses between unit and wall.

11. Re-install back protection panel.

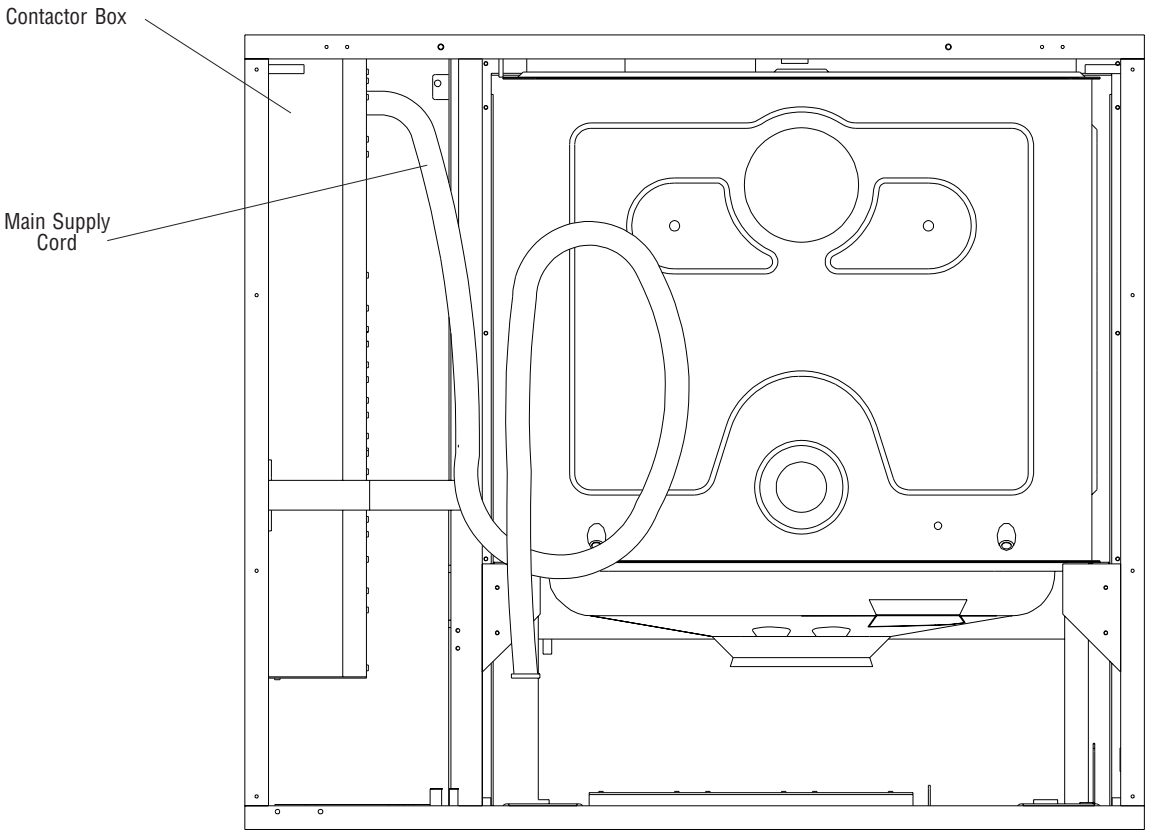

Figure 3-2. Main Supply Cord

Electrical Connections

>> Units Operating on 60 Hz

WARNING - ELECTRICAL SHOCK AND/OR BURN HAZARD: Disconnect all utilities to unit before servicing. Do not service unit unless all utilities have been properly locked out. Always follow local electrical codes and safety-related work practices.

WARNING - ELECTRICAL SHOCK AND/OR BURN HAZARD: Secure cable wires on junction box with strain relief to prevent damage to wiring on unit and on wall.

CAUTION - POSSIBLE EQUIPMENT DAMAGE: On junction box, secure main supply cord with a strain relief to prevent damage to wiring.

CAUTION - POSSIBLE EQUIPMENT DAMAGE: Do not cut main electric supply cord. The whole (105" [2,667 mm]) length of the main supply cord is required when pulling out the unit for service or maintenance purposes.

1. On contactor box, remove five screws holding access panel in place. Remove access panel. See Figure 3-2.

NOTE: Always follow local occupational health and safety regulations, as well as electric and plumbing codes for any special requirements that may pertain to the installation of this unit.

NOTE: Customer electrical connections must be installed as indicated on the Equipment Drawing.

2. Installation Kit box containing main supply cord and strain relief.
3. Cut and remove tie wrap from main supply cord.
4. From behind unit, run main supply cord through hole on electrical box (see Figure 3-2). Secure main supply cord with strain relief.
5. Make the following connections:

- **For 230 V, single phase, 60 Hz units:**

  a. Green wire (ground) to ground terminal.

  b. Black wire (L1) to L1 on TB1.

  c. Red wire (L2) to L2/N on TB1.

  d. White wire to terminal identified X on TB1.

NOTE: The white wire is not used. Be sure that it is properly insulated in the junction box.

- **For 208 V and 460 V, three phase, 60 Hz units:**

  a. Green wire (ground) to ground terminal.

  b. Black wire (L1) to L1 on TB1.

  c. Red wire (L2) to L2 on TB1.

  d. Orange wire (L3) to L3 on TB1.

  d. White wire to terminal identified X on TB1.

NOTE: The white wire is not used. Be sure that it is properly insulated in the junction box.

6. Connect main supply cord to building electrical supply box. Secure main supply cord with a strain relief (not by STERIS).
7. Re-install access panel on contactor box.

>> Units Operating on 50 Hz

1. Repeat steps 1 to 3 above.
2. Make the following connections:

- **For 230 V, single phase, 50 Hz units:**

  a. Green/yellow wire (ground) to ground terminal.

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b. Brown wire (L1) to L1 on TB1.

c. Blue wire (N) to L2/N on TB1.

d. Black wire (L3) to L3 on TB1.

NOTE: The black wire is not used. Be sure that it is properly insulated in the junction box.

- **For 400 V, three phase, 50 Hz units:**

  a. Green/yellow wire (ground) to ground terminal.

  b. Brown wire (L1) to L1 on TB1.

  c. Black wire (L2) to L2 on TB1.

  d. Black wire (L3) to L3 on TB1.

  e. Blue wire to terminal identified X on TB1.

NOTE: The blue wire (neutral) is not used. Be sure that it is properly insulated in the junction box.

3. Connect main supply cord to building electrical supply box. Secure main supply cord with a strain relief (not by STERIS).

4. Re-install access panel on contactor box.

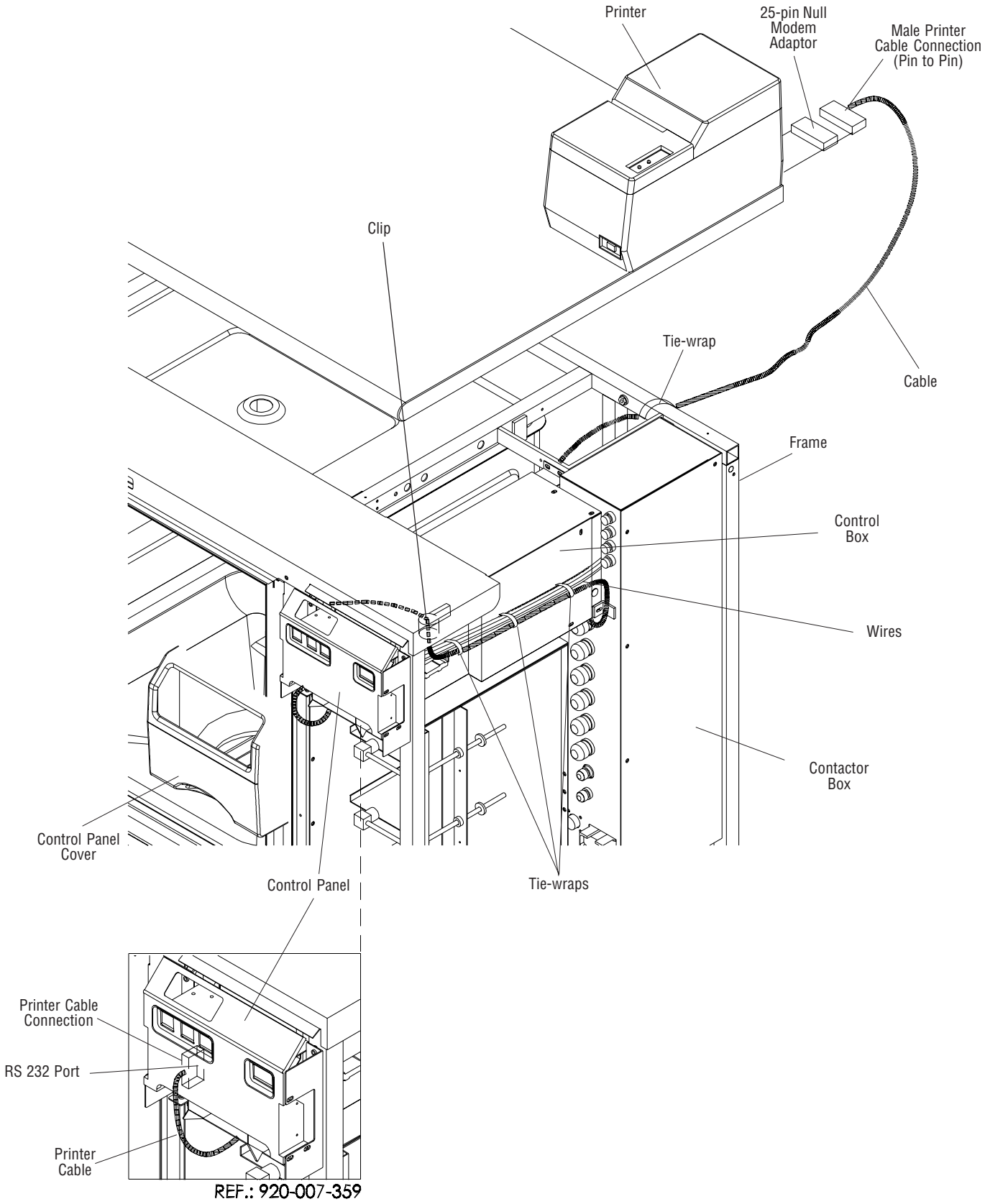

Figure 3-3. Optional STAR Micronics Dot Matrix Printer - SP312F

Optional Printer

WARNING - ELECTRICAL SHOCK AND/OR BURN HAZARD: Disconnect all utilities to unit before servicing. Do not service unit unless all utilities have been properly locked out. Always follow local electrical codes and safety-related work practices.

A STAR Micronics Dot Matrix Printer (SPF312F) (optional) is available for use with the Reliance 200/250 Glassware Washer (see Figure 3-3).

NOTE: For installation of a printer other than the STAR Micronics Dot Matrix Printer (SPF312F), refer to printer manufacturer's documentation.

1. Open the printer box and remove wrapping material.
2. The printer box contains the following items:
   - STAR Micronics Dot Matrix Printer (SPF312F)
   - Paper rolls
   - Printer communication cable
   - Hardware

     Spare cover

     Installation Manual

     Users Manual

     PW 300 Rewinder Users Manual

     Spare rewinder

     25-pin null modem adaptor

     Clip (1)

     Stainless-steel screw (1)

     Tie-wraps (4)
3. Set printer aside.
4. Open detergent compartment door.
5. Loosen two screws under control panel cover. Remove cover.
6. From side of unit, run male connection end of the printer cable between top cabinet panel and control box (see Figure 3-3).
7. Pull connector out under the control panel (in front of unit).
8. Connect cable to RS232 port under the control panel. Tighten screws.
9. From side of unit, pull cable so that cable is not loose.
10. Remove 6-32 x 1/4" screw on control box. Insert clip on cable. Fix cable to unit using provided 6-32 x 1/2" stainless steel screw.
11. Attach printer cable to wiring on control box using three provided tie-wraps.
12. Run the cable under the control box, then behind the contactor box.
13. Run cable between the water inlet flexible hose and the contactor box.

NOTE: Printer cable must not touch or come into contact with the two drying hoses.

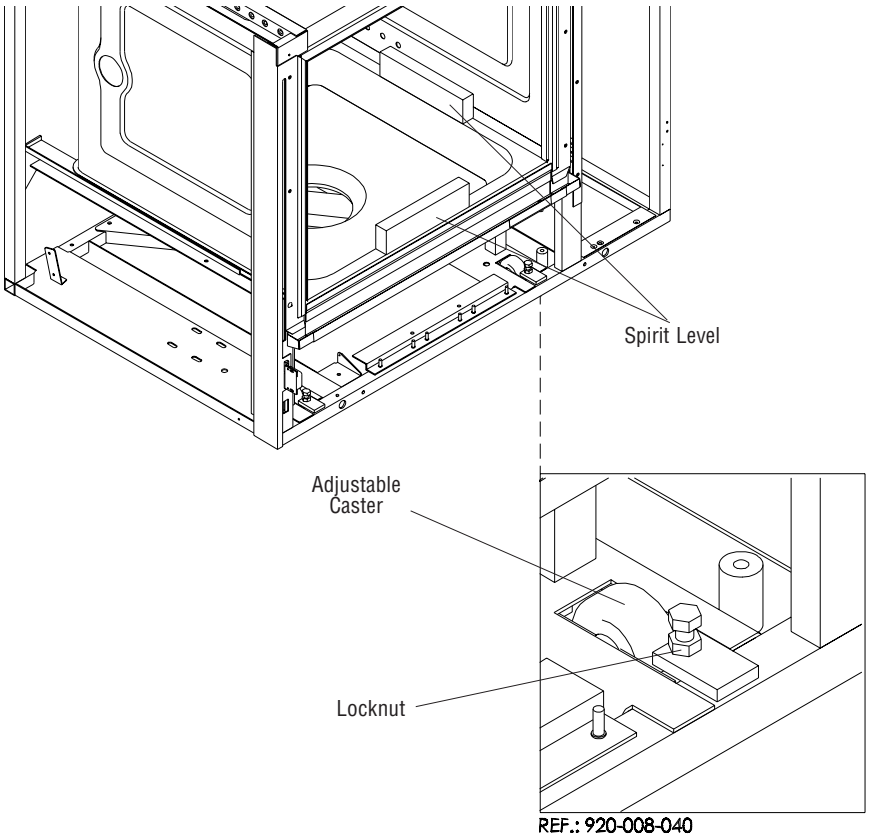

Figure 3-4. Level Unit

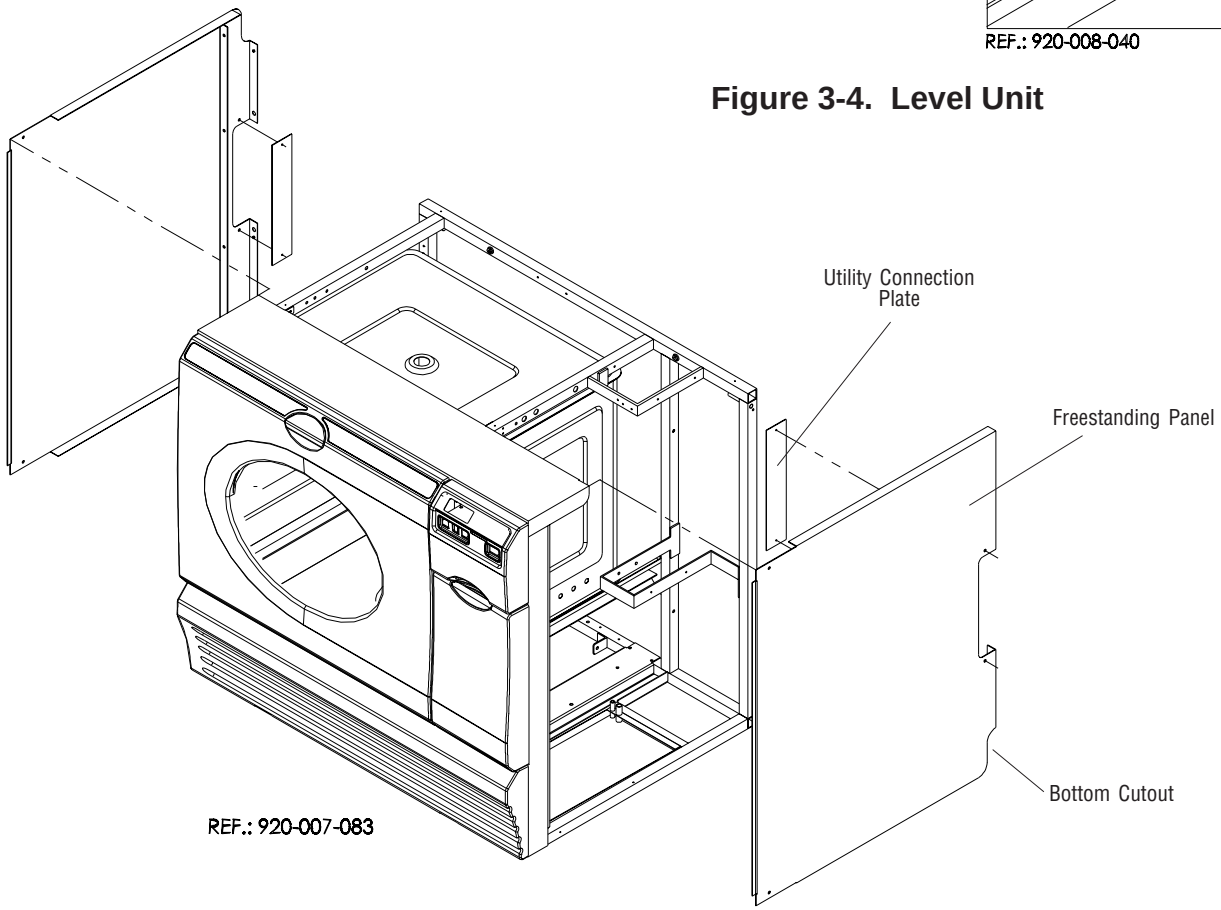

Figure 3-5. Optional Freestanding Panels

⚠ CAUTION - POSSIBLE EQUIPMENT DAMAGE: Do not cut printer cable. The whole (105" [2,667 mm]) length of the printer cable is required when pulling out the unit for service or maintenance purposes.

14. Fix cable under frame using remaining tie-wrap.
15. On printer, connect 25-pin null modem adaptor. Tighten screws.

For 200 Glasware Washers:

16. If unit is freestanding:
    a. Remove utility connection plate from left side of optional freestanding panel (see Figure 3-5).
    b. Run printer cable through hole and connect cable connector to 25-pin null modem adaptor. Tighten screws.
    c. Plug printer to building electrical outlet.
17. If countertop unit:
    a) Drill a 2-1/2" (64 mm) hole in countertop under the future position of printer. Install countertop (see Figure 3-6).
    b. Run printer cable through hole and connect cable connector to 25-pin null modem adaptor. Tighten screws.
    c. Plug printer to building electrical outlet.

NOTE: Before pulling out unit for service or maintenance purposes, be sure to disconnect printer or to loosen printer cable to prevent cable from breaking.

18. If unit is undercounter:
    a. Drill a 2-1/2" (64 mm) hole in countertop under the future position of printer.
    b. Run printer cable through hole and connect cable connector to 25-pin null modem adaptor. Tighten screws.
    c. Plug printer to building electrical outlet.

For 250 Glassware Washers:

19. Freestanding Units:
    a. Run cable from behind unit through wall until desired printer location and connect cable connector to 25-pin null modem adaptor. Tighten screws.
    b. Plug printer to building electrical outlet.
20. If unit is recessed:
    a. Run cable from behind unit through wall by the upper right corner, between wall and barrier wall flange and connect cable connector to 25-pin null modem adaptor. Tighten screws.
    b. Plug printer to building electrical outlet.
21. For further information on printer (printer options, paper installation, etc.) refer to the Installation and Operator Manuals provided with the printer.

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Final Installation

>> Level the Unit

CAUTION - POSSIBLE EQUIPMENT DAMAGE: Do not cut flexible hose (utilities and draining). The whole (105" [2,667 mm]) length of the flexible hose is required when pulling out the unit for service or maintenance purposes.

CAUTION - POSSIBLE EQUIPMENT DAMAGE: Do not cut main electric supply cord. The whole (105" [2,667 mm]) length of the main supply cord is required when pulling out the unit for service or maintenance purposes.

IMPORTANT: If Water treatment units (Purified Water Generator System (optional) and/or Water Softener System (optional) have to be installed, refer to Water Treatment Systems Equipment Manual (P-920010-187) before completing final installation of the washer.

1. Push washer to final installation site.
2. To level washer, place a spirit level on the door sill of the wash chamber and on the side of the wash chamber (see Figure 3-4).
3. Level unit, end-to-end and side-to-side, using leveling swivel casters. Tighten locknuts on all swivel casters.
4. Place accessory in the wash chamber.
5. If 200 under counter or 250 freestanding units, push unit against the wall.
6. If 200 Freestanding (optional) unit, install countertop (optional) and Freestanding Panels (optional) before pushing unit into final position.

If 250 recessed units:

7. Fix unit in its final position as follows:
   a. Fix anchoring pins on back bottom of unit, as in Equipment Drawing.
   b. Install Optional Barrier Wall Flanges.

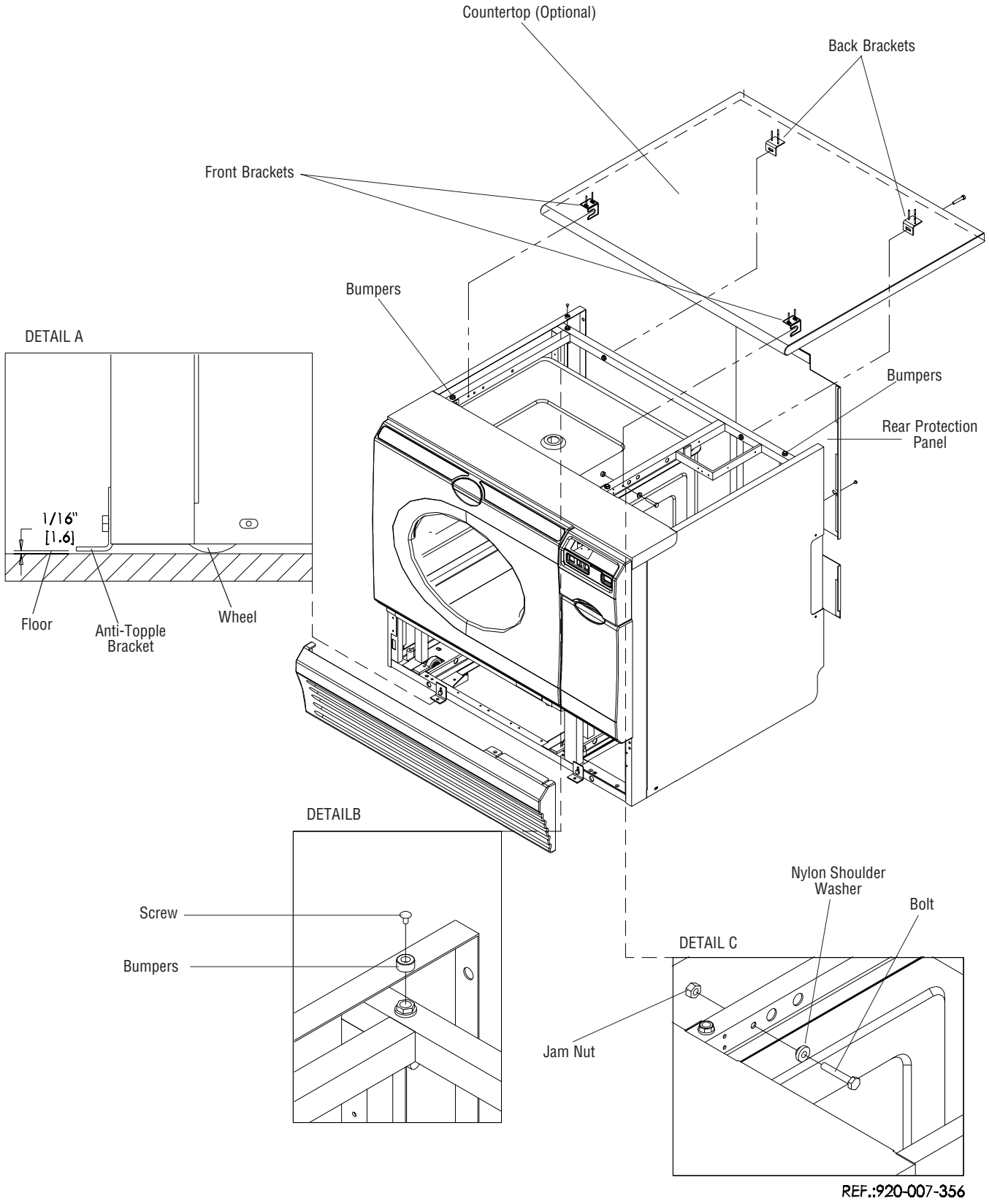

Figure 3-6. Countertop (Optional)

>> Optional Freestanding Panels (200 Model)

CAUTION - POSSIBLE EQUIPMENT DAMAGE: Do not cut flexible hose (utilities and draining) and/or main supply cord. The whole (105" [2,667 mm]) length of the flexible hose and main supply cord is required when pulling out the unit for service or maintenance purposes.

1. Open crate, discard foam and packing material. Remove freestanding panels and hardware kit.
2. Freestanding panels hardware kit contains:
   - 8-32 x 1/4" screws (12)
   - Connection Plates (2)
3. Install freestanding panels on washer frame using provided screws (see Figure 3-5). Be sure bottom cutout is facing down.
4. If necessary for glassware washer connections, remove utility connection plates (see Figure 3-5).
5. Push glassware washer, and/or Purified Water Generator System (optional) and/or Water Softener System (optional) unit(s) against the wall. Make sure flexible hoses behind the unit(s) are not crushed or squeezed.

NOTE: If a glassware washer is installed between a Purified Water Generator and a Water Softener, only two freestanding panels will be required for the three units.

NOTE: The Reliance 200/250 Glassware Washer must always be installed against a wall to prevent access to electrical components. Only a qualified technician should have access to electrical components.

>> Optional Countertop (200 Model)

1. Open crate, discard foam and packing material. Remove countertop, rear protection panel, and hardware kit.
2. Countertop hardware kit contains:
   - Countertop
   - Rear protection Panel
   - Rubber bumpers with washers (4)
   - Nylon shoulder washers (2)
   - 6-32 x 1/4" screws (5)
   - 1/4 x 20 nuts (2)
   - 1/4 x 1-1/4" bolts (2)
   - 8-32 x 1/2" screws (3)
   - 1/4 x 1-1/2" bolts (2)
   - Anchors (2)
3. Install four rubber bumpers on top of frame using 6-32 x 1/4" screws (see Figure 3-6).
4. Latch countertop into position and check alignment with sides and rear of unit.
5. If countertop is not properly aligned, remove countertop, loosen screws on the brackets.

6. Replace countertop into position. Re-align countertop with unit.
7. Remove countertop. Tighten screws on brackets.

NOTE: Do not tighten screws on the back brackets until countertop is properly aligned.

8. Latch countertop in final position.
9. Tighten screws on the back brackets.
10. If an optional remote printer is being installed, drill a 2-1/2" (64 mm) hole in the optional countertop for printer cable connection.
11. Install rear protection panel using provided screws. Tighten all screws.
12. Install the washer in final position and level the unit, end-to-end and side-to-side.
13. Remove flat head screw holding the service access panel to the frame.
14. Remove the service access panel.
15. Install two anti-topple brackets in front of the washer (see Figure 3-6). Install the anti-topple brackets 1/16" (1.5 mm) from the floor.

IMPORTANT: Do not attach the anti-topple brackets to the floor.

Cleanup

CAUTION - POSSIBLE EQUIPMENT DAMAGE: When removing adhesives from stainless steel, use a small amount of non-flammable cleaning solvent. Rub in a back-and-forth motion (in same direction as surface grain). Solvent rubbed in a circular motion or applied with a wire brush or steel wool on door and chamber assemblies can be harmful to stainless steel. Do not use solvents on painted surfaces.

1. Remove any adhesive on door, inside the wash chamber and on freestanding panels (optional) with a small amount of nonflammable cleaning solvent. Keep solvents away from all painted surfaces or damage may result.
2. Inspect equipment and work area to be sure all materials used during installation have been removed.
3. Reinstall service access panel and control panel cover.

This unit is now ready for a thorough System Field Test, Calibration, and a first-time Preventive Maintenance Checklist Inspection by a qualified STERIS Service Representative. Contact your STERIS Service Representative for availability and information on this service. Refer to the Maintenance Manual (P-764330-139) for further details on these procedures.

INSTALLATION CHECKLIST

4

Installation Checklist must be completed after the equipment is installed and prior to performing the operational test (Section 5) to ensure complete and correct installation.

NOTE: Contact your STERIS representative to schedule a technician to test your installation and demonstrate proper equipment operation.

❑ Shutoff valves (not by STERIS), for maintenance purposes and capable of being closed, installed on water lines and in compliance with local occupational health and safety regulations, as well as electric and plumbing codes for any special requirements that may pertain to installation of this unit.

❑ Disconnect switches (not by STERIS), capable of being locked in **OFF** position only, installed in electrical supply line near the unit and in compliance with local occupational health and safety regulations, as well as electric and plumbing codes for any special requirements that may pertain to installation of this unit.

NOTE: If unit is installed next to other equipment, shutoff valves and disconnect switches should be located so that service can be shut off to one piece of equipment at a time.

❑ Unit is positioned, as shown on Equipment Drawing, with required clearance space and in relation to building supply lines.

❑ Unit is level.

❑ Building cold water line supplies water to unit as specified on Equipment Drawing.

❑ Building hot water line supplies water to unit temperature as specified on Equipment Drawing.

❑ Pure water line supplies water to unit as specified on Equipment Drawing (if equipped with Pure Water Rinse option).

❑ If required, verify all water pressure regulators are installed as per instructions provided with the installation kit, and that pressure is adjusted as specified on Equipment Drawing.

❑ Building waste line is connected to unit as specified on Equipment Drawing.

❑ Electrical supply for unit is as specified on Equipment Drawing.

❑ Floor surrounding unit has nonslip and noncombustible surface.

❑ Wall behind unit has a noncombustible surface.

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Test Procedure

⚠ WARNING - ELECTRICAL SHOCK AND/OR BURN HAZARD: Fasteners and star washers are used to ensure protective bonding continuity. Always reinstall any star washer which may have been removed during installation or servicing.

⚠ CAUTION - POSSIBLE EQUIPMENT DAMAGE: Always use a silicone lubricant to lubricate squeeze tubes. Petroleum-based lubricants, such as Vaseline or grease, will cause squeeze tubes to melt.

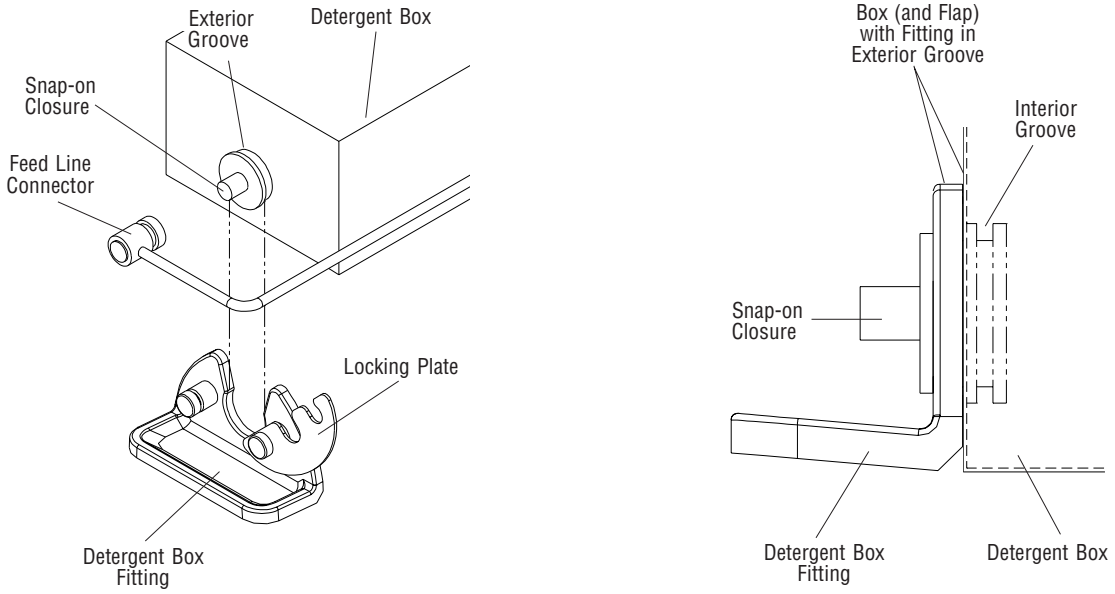
Test procedures included in this section should be performed by a STERIS-trained service technician prior to normal operation of the equipment.

IMPORTANT: This unit is configured to operate on the following voltages. If your building electrical supply does not meet one of the following voltages, refer to Section 8 of the Maintenance Manual (P-764330-139).

Maximum current and power consumption:

- 208 V~, 23.1 A, 6.7 kW, 3 ϕ, 60 Hz
- 230 V~, 27.9 a, 6.42 kW, 1 ϕ, 50/60 Hz (CE Marked)
- 400 V~, 12.1 A, 6.5 kW, 3 ϕ, 50 Hz (CE Marked)
- 460 V~, 10.1 A, 6.7 kW, 3 ϕ, 60 Hz

1. Check that debris screen is positioned in wash chamber sump.
2. Check that wash chamber is empty and all packing material (tape and nylon straps) has been removed.
3. If not already open, open cold and hot water supply valves, and turn building electrical supply to **ON.**
4. If optional printer is present, put printer power switch to **ON** position.
5. Open detergent compartment and remove box containing two detergent box fittings and two lubricant bottles to lubricate squeeze tubes.



Detail A. **Detail B.**

Figure 5-1. Detergent Boxes

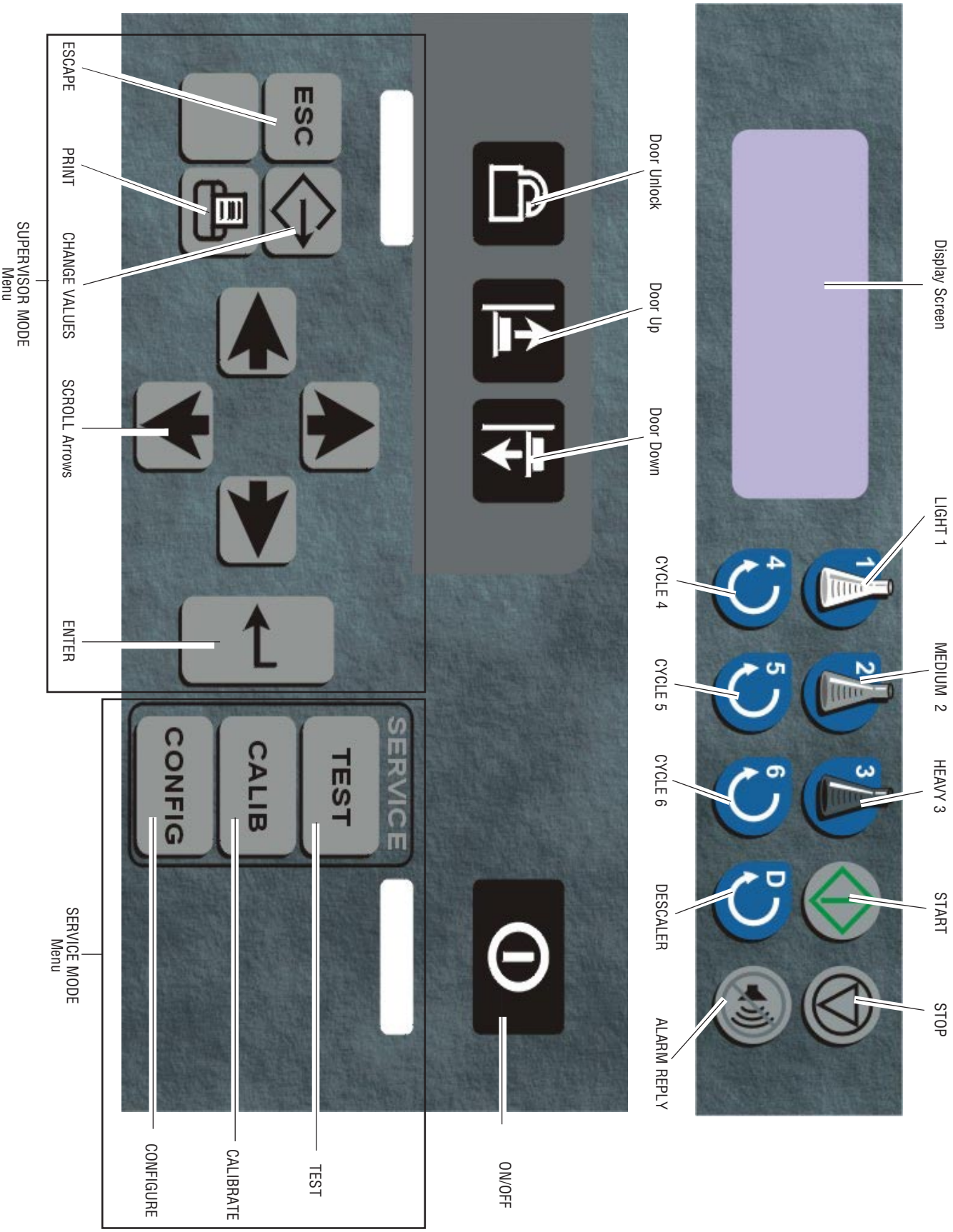


Figure 5-2. Control Panel

⚠ WARNING – CHEMICAL BURN/EYE INJURY HAZARD: Detergents are caustic and can cause adverse effects to exposed tissues. Do not get in eyes, on skin or attempt to ingest by mouth.

- **Read and follow the precautions and instructions on the detergent label and in the Material Safety Data Sheet (MSDS) prior to handling detergent containers or servicing detergent injection pumps.**
- **Wear protective clothing, gloves and face shield whenever handling detergents or servicing detergent injection pumps and lines.**

6. Install detergent containers. See Figures 5-1 and 5-3.
   a. To open the CIP® 100 new detergent box, press along the perforated line.

NOTE: Do not tear out the perforated cardboard flap.

   b. Place the detergent box upside down to pull out the snap-on closure.
   c. The cardboard flap and flap must be inserted in the exterior groove of the snap-on closure.
   d. Insert the detergent box fitting in the exterior groove of the snap-on closure.

NOTE: Fitting, as well as cardboard box and flap must be inserted in the exterior groove.

   e. Place the detergent box on the shelf. Be sure color on the box matches color on the detergent compartment sticker.
   f. Pivot the feed line connector and connect to detergent container connector (see Figure 5-3).
   g. Pivot the locking plate over the feed line connector and secure plate into the feed line connector groove and locking pin groove.
7. Repeat steps a to g for CIP® 200.
8. Close detergent compartment door.
9. Close unit door.
10. Press **ON/OFF** pushbutton to start the unit (see Figure 5-2). For 4 seconds, display shows:

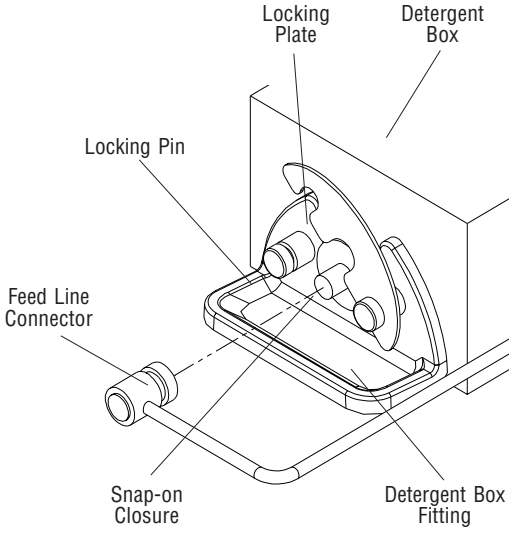


Figure 5-3. Detergent Boxes

TESTING MEMORY
PLEASE WAIT

then

STERIS CORP
COPYRIGHT (C) 2001

then

POLLING KEY

then

READY
HH:MM MM-DD-YY

» Priming Procedure

Before starting the operational test, it is necessary to prime the detergent pumps.

1. Loosen the two screws under the control cover pane. Remove panel.

2. Press **CHANGE VALUES** touch pad to enter Supervisor Mode. Display shows:

SCROLL TO MODIFY LIGHT*

**Indicates flashing position*

WARNING - FALL HAZARD: To prevent falls, keep floors dry. Promptly clean up any spills or drippage.

3. Press **SCROLL ARROWS** (up or down) to access the **PRIME PUMP** menu. Display shows:

SCROLL TO MODIFY PRIME PUMP*

** Indicates flashing position*

WARNING - CHEMICAL BURN/EYE INJURY HAZARD: Wear gloves and eye protection when using a descaling product. Avoid contact with eyes or skin. If spilled or splashed, flush with water for 15 minuts. If swallowed, DO NOT induce vomiting. Administer an alkali with plenty of water. Seek medical attention immediately.

4. Press **ENTER** to confirm selection. Display shows:

SELECT PUMP CIP 100*

** Indicates flashing position*

5. Press **ENTER** to confirm selection. Display shows:

PRESS START TO PRIME PUMP

6. Press **START** to start priming. Check inside wash chamber to see if detergent is being injected through the detergent injection ports located on the right side of the wash chamber.

7. When detergent starts injecting, press the **STOP** touch pad.
8. Repeat steps 2 to 7 for CIP® 200.
9. Press **ESC** twice to return to main menu.

WARNING - CHEMICAL BURN AND/OR EYE INJURY HAZARD - Detergents are caustic and can cause adverse effects to exposed tissues. Do not get in eyes, on skin, or attempt to ingest by mouth. Read and follow the precautions and instructions on the detergent label and in the Material Safety Data Sheet (MSDS) prior to handling the detergent, refilling the detergent container or servicing the detergent injection pump. Wear protective clothing, gloves, and face shield whenever handling the detergent or servicing the detergent injection pump and lines.

» Start -up Test

1. If the optional load-lifting door system is present, test the load-lifting features as follows (Reliance 200 only):

   a. Press the **DOOR UNLOCK** pushbutton to open the wash chamber door. Door should open.

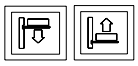
   b. When door is completely open, press the **DOOR UP** pushbutton. Door should raise. Raise door to the highest position.

   c. Press the **DOOR DOWN** pushbutton. Door should lower.

   d. Release the **DOOR DOWN** pushbutton to stop door at mid-stroke. Door should stop lowering.

   e. Close door at a 15° angle.

NOTE: The optional load-lifting door should function only with the door in the horizontal position.



   f. Press the **DOOR UP** pushbutton. Door should not move. Press the **DOOR DOWN** pushbutton. Door should not move.

2. Place an empty accessory rack into the wash chamber. Push the accessory rack firmly into the manifold connector at the back of the wash chamber. Close the wash chamber door.

3. Press **LIGHT** 1 touch pad to select **LIGHT** cycle.

4. Verify that name of selected cycle appears on the display screen. Display shows:

LIGHT **PRESS START**

CAUTION: Before operating equipment, always firmly push the manifolded accessory rack into the manifold connector at the back of the wash chamber. If rack is not positioned correctly, door will not close, damage may result, and unit will be unable to effectively wash load.

5. Press **START** touch pad to start the cycle. Display shows:

OPERATING ***MM* MIN**

*NOTE: If the **START** touch pad is not pressed within 4 seconds, display automatically returns to the READY screen.*

6. Behind Service Access Panel, inspect detergent pumps and tubing for leaks. If any leaks occur, tighten clamps and unions.

NOTE: It is possible to tilt the unit to access components located under the wash chamber. Refer to Section 8 of Maintenance Manual (P-764330-139) for more information on the Tilting Procedure.

WARNING - PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Before tilting the unit, make sure quick release pins are properly secured in service legs at the back of the unit and on service handles in front of the unit.

WARNING - ELECTRICAL SHOCK AND/OR BURN HAZARD: Disconnect all utilities before tilting the unit. Do not tilt unit unless all utilities have been properly locked out. Always follow local electrical codes and safety-related work practices.

IMPORTANT: To prevent damage to piping and recirculation components during storage and transportation, an **antifreeze solution** has been put in the recirculation system. It is preferable to wait until a draining phase has been completed before opening the unit. Before starting the test cycle, refer to the antifreeze solution **MSDS** sheet.

7. During the **PRE-WASH 1** treatment, check that the wash chamber and accessory rotary spray arm assemblies are rotating freely.

8. If rotary spray arm assemblies are rotating too slowly (less of one tour/second), press **STOP** to interrupt the cycle. Display shows:

DRAINING **PLEASE WAIT**

alternating with:

STOP PRESSED **CYCLE DELAYED**

9. When draining is completed, display shows:

START = RESUME **STOP = CANCEL**

10. Press **DOOR UNLOCK** pushbutton to open the wash chamber door.
11. Open door and remove accessory rack.

WARNING - BURN HAZARD: When checking the automatic stop feature, wear appropriate personal protective equipment (PPE) and open chamber door slowly. Hot water/ steam may be sprayed through door opening if door is opened during a cycle.

12. Remove the rotary spray arm assemblies (see Figure 5-4).
13. Loosen retaining screw and remove rotary spray assembly.

NOTE: There are two loose bushings between the rotary spray arm hub and the top of the wash chamber. When lowering the rotary spray arm, the bushings may fall. Be sure to reinstall all the rotary spray arm components in the proper order. See Figure 5-4.

14. Clean rotary spray arms under running water if necessary.
15. Reinstall rotary spray arms to hub making sure slots on spray arms and holes in hub are properly aligned (see Figure 5-4).
16. Reinstall the accessory rack in the wash chamber.

17. Close the door and press **START** to resume cycle.
18. Allow cycle to run to completion. Use the Operator Manual (P-920010-164) to verify proper unit and cycle operation.
19. Verify alarm buzzer sounds and the following message appears on the display screen once cycle is complete:

CYCLE COMPLETE **READY TO UNLOAD**

20. Press **ALARM REPLY** touch pad to silence buzzer.
21. Press **DOOR UNLOCK** pushbutton to unlock and open wash chamber door.
22. Open the wash chamber door. As soon as door is open, check that display shows:

READY HH:MM MM-DD-YY

23. Allow chamber components and rack to cool before unloading.
24. Remove and clean debris screen under running water. Replace debris screen in wash chamber sump.
25. Remove screens from unit supply-line strainers and check for debris. Clean supply line strainers if necessary.
26. Reinstall control panel cover.

WASHER IS NOW READY FOR NORMAL OPERATION. Contact your local STERIS representative to schedule a demonstration on how to operate the equipment. Refer to the Operator Manual (P-920010-164) for operating instructions.

IMPORTANT: After a few weeks of operation, inspect unit for leaks. Tighten all clamps and connections if necessary.

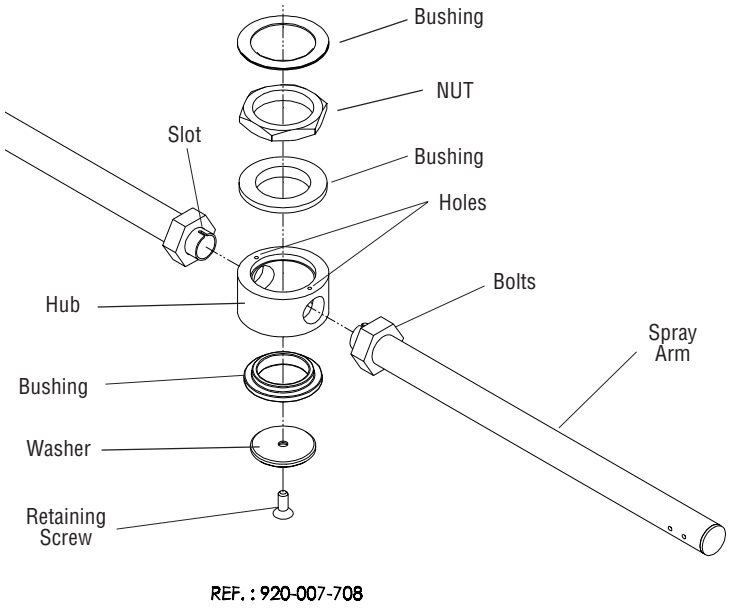


Figure 5-4. Rotary Spray Arms

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